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ABSTRACT

This paper assesses the new immigration law and its impact on the growing minority segment of the U.S. labor force. It frames the issues raised by the law that concern non-Asian American minority citizens, presents evidence that supports these concerns, and suggests both short-term and long-term policy implications. The analysis begins with an examination of those provisions of the new immigration law that are germane to minority workers, including a brief discussion of competing views of how immigration policies affect U.S. workers. The paper then looks at the status of minorities in the labor force, determining their current location and status in the major occupational categories that comprise the structure of the American work force. This information provides the basis for an examination of minorities in the professional labor market and for examining the link between U.S. education and immigration flows and how the focus on immigration ignores educational reforms that are crucial to the access and training of minorities. A final section briefly discusses the implications of the analysis for public policy as well as initiatives that might be taken by government, employers, and educational institutions. Included are 5 tables and 77 references. (JB)

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Building the Nation's Work Force from the Inside Out

Educating Minorities for the Twenty-first Century

By

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and

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Center for Research on Multi-Ethnic Education

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PREFACE

Current research, practice, and policy efforts that address the educational status of Americans of color are based significantly on the demographic shifts occurring in the nation, shifts which indicate that a significantly growing number of college-going students will be people of color. Such efforts are strongly influenced also by the need to offset projected labor shortages facing the United States and the recognition of the central relationship of education to economic well-being.

The ultimate effectiveness of such efforts must encompass consideration of concurrent rapid global shifts in the population. This reality clearly has not gone unnoticed by many scholars and policymakers interested in the educational status of Americans of color. For instance, attention has been drawn to a number of initiatives designed to offset projected shortfalls, including the Immigration Act of 1990, initiatives that may simultaneously affect the development of the nation's existing human resources.

The Center for Research on Multi-Ethnic Education commissioned the following paper by Shirley Vining Brown and Beatriz Chu Clewell to address these areas. The paper focuses on issues raised by the new immigration law that affect minority citizens and to consider short- and long-term policy implications of the law. It also considers possible effects of the law on U.S. resolve to maximize the human resources of all its citizens educationally and economically.

Toward that end Vining Brown and Clewell examine provisions of the new law that are relevant to the status of American minorities, the status of minorities in the labor force (particularly as the new law affects their participation in the professional labor market), the implications of their analysis for public policy, and initiatives that the government, educational institutions, and employers might take to effect the solution.

Shirley Vining Brown is a Senior Research Scientist in the division of Education Policy Research at Educational Testing Service, which she joined in 1989. She earned the Ph.D. in sociology and social work at the University of Michigan. She served as Assistant and Associate Professor at the University of Maryland and has done postdoctoral work at Johns Hopkins University. Brown's research focus has been on talent flow issues in the educational pipeline, and, more recently, she has concentrated on equity issues in higher education. From 1984 to 1986 she served as the project director of a study of minorities and women in the mathematics, science, and engineering pipeline at the Office of Science and Engineering Personnel, National Academy of Sciences. Brown was one of a team of researchers involved in the development of a research agenda for the GRE Board's Minority Graduate Education Project. She has continued her interest along this line of inquiry in recent studies of minorities in the undergraduate-graduate pipeline and the status of minority doctorates and their postgraduate career paths. Selected publications include *Increasing Minority Faculty: An Elusive Goal* (1988) and *Minorities in the Graduate Education Pipeline* (1987).

Beatriz Chu Clewell earned her Ph.D. in educational policy planning and analysis (with a minor in human capital development) from Florida State University in 1980. She is currently a Senior Research Scientist at Educational Testing Service, which she joined in 1983. Her research focuses on the access to and participation in higher education by underrepresented minorities with an emphasis on institutional barriers to access. She has also conducted research on intervention strategies to increase the representation of minorities and women in science, mathematics, and engineering fields and has just completed a book on this subject. A native of the Republic of Panama, Clewell taught at the middle school and postsecondary levels in Honduras and Venezuela before immigrating to the United States.

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SHIRLEY VINING BROWN
BEATRIZ CHU CLEWELL

BUILDING THE NATION'S WORK FORCE FROM THE INSIDE OUT

Introduction

After three decades of considering alternative methods of redistributing economic advantages to minorities in the work force, the United States is still struggling with how to settle past inequities (Hartigan and Wigdor, 1989). Although education is central to economic progress, there has been a steady retreat by government policymakers from basic educational reform. Never before in U.S. history has education meant more to the growth and progress of individuals and the nation. In addition to providing the human capital that administers the operation of the government, the corporate world, and the professions, the educational system also trains the future work force that will revitalize its own faculty.

The demography of the population and the shifts in citizens' career interests have ensured continuing national concern about the future configuration of the work force. Industry is concerned about the quality and quantity of workers who will be available to a labor market advancing toward an era of new products and new technologies. Higher education, which is competing with industry to attract the nation's most talented people, is concerned about the pronounced changes in the academic labor market that are projected for the turn of the century (Bowen and Schuster, 1986; Bowen and Sosa, 1989). The need for elementary and secondary school teachers is already at hand, and the personnel strength in certain health-care professions such as nursing has dropped perilously below acceptable levels.

Moreover, many citizens have a vital stake in the nation's future job market. While we are aware of the difficulties some Asian immigrants (e.g., Laotians, Hmongs, and Thais) are experiencing, both economically and culturally, the focus in this paper is on native-born minority citizens. Non-Asian minority citizens live on the margin of America's social and economic order and thereby experience a unique impact from marked changes in the economy and labor conditions. For example, we know that minority groups do not fare well during times of recession. But even during times of prosperity, when minorities make their strongest gains (Simms, 1988), the maldistribution of jobs and economic rewards continues (Wright, 1991). Because of their relative deprivation, these groups do not achieve occupational or earning parity with white Americans (Jaynes and Williams, 1990). Thus, whether the nation is in a period of feast or famine, minority groups continually vie with other groups for employment opportunities from a basis of disadvantage.

In an attempt to lessen the confusion and propaganda that race and ethnicity often evoke in any consideration of issues that cut across civil rights, politics, and economics, the government must ask and answer several essential questions. Two questions raised in Robert Reich's (1991) recent analysis of the future of American capitalism are helpful in this regard: First, and foremost, can we pursue economic progress in ways that ensure the welfare of all American citizens? Second, can the United States identify a program of positive economic nationalism that does not reject other sources of talent yet favors the development of the potential of the most basic national resource, the American people? To these questions we add a third: How can minorities augment future labor supplies, and what national goals and plans are in place to develop and utilize their talents?

A legitimate role of the nation-state in this enterprise is to provide the leadership to meet anticipated work-force needs, whether they be labor shortages or surpluses. In the 1950s it was governmental action that offset the nation's relative imbalance in the international community of scientists and engineers by infusing massive federal funds into fellowship and trainee programs. This action eased the competitive pressure brought on by the Soviet Union's advances in its space program. Federal initiatives not only expanded the nation's supply of physical scientists and engineers but also provided for similar support programs that enlarged a cadre of specialists in the humanities and social sciences (Bowen and Sosa, 1989).

This period of increase in federal support was followed by a sudden and lingering period of retrenchment that drastically reduced federal support for undergraduate and graduate education (*Black Issues in Higher Education*, 1991; Bowen and Sosa, 1989). Consequently, we are now grappling with the question whether, over the next few decades, American higher education can supply the quality and quantity of personnel to fill anticipated labor shortages and, if not, how supply needs will be met. What are the projected numbers, and in what occupations will we need more workers?

Recently, as a step toward minimizing the effects of future labor-market fluctuations, the federal government considered and acted on several initiatives designed to anticipate and solve projected personnel shortfalls. Congress enacted one such initiative that resulted in a substantially revised version of the Immigration Act of 1965. The Immigration Act of 1990 provides for major changes in immigration quotas that will increase the flow of immigrants into the U.S. work force to fill anticipated job shortages. In a narrow sense the language of the act suggests that relaxing the earlier law will produce advantages for the United States through the infusion of talented immigrants who possess useful skills. In the broader sense, however, the new immigration law may become a focus of growing contention between minorities and unskilled workers on the one hand and businessmen and policymakers on the other who see potential savings by bringing in "immigrants who would benefit the United States economically and otherwise" (Immigration Act of 1989 [Senate version], p. 11).

Providing job opportunities and training for minorities and opening U.S. borders to immigration are not opposing issues. The debate does not turn on the question of whether we should train U.S. workers or increase immigration flows. Clearly both undertakings are needed. Occupational projections for the twenty-first century indicate that sufficient levels of immigration can coexist with increasing access to job opportunities for minorities and other U.S. workers. But the tone and substance of the new immigration law and perceptions about what it can do for anticipated labor shortages raise questions about the future direction, role, and priorities that will be given to policies that can benefit U.S. workers. The fact that some policy analysts (Wattenberg and Zinmeister, 1989) see potential savings by reducing the pressure on employers to train Americans for skilled jobs escalates concerns about those who will not qualify for these positions. There is also the concern that focusing on immigration as a solution to labor shortages may divert the administration's attention from needed educational reforms (Reich, 1991).

Lessons from the past have taught us that the United States rose to world industrial leadership by using "a work force primarily comprised of immigrants, in an era when social and economic distances between classes were easily as great as those of today" (Wright, 1991). This comment unquestionably describes the social and economic disparities that currently separate the nation's racial and ethnic groups. It also reveals a side of the immigration issue that has not been adequately considered by politicians, educators, or businessmen but is likely to be an important factor in the economic and political health of the United States in the 1990s and the century that lies ahead. For this reason there is a need to assess the new immigration law and its impact on the growing minority segment of the U.S. labor force.

One purpose of this paper is to frame the issues raised by the new immigration law that concern non-Asian minority citizens, to present evidence that supports these concerns, and to suggest both the short- and the long-term policy implications of the law. Another purpose is to consider how the effects of the law may influence a weakening national resolve to achieve social and economic cohesion. From both a social and an educational policy perspective, our approach cannot answer all the questions that are raised by the new immigration law. But that in no way diminishes the importance of providing a timely consideration of the issues and inviting alternative considerations of how the law may influence the educational and employment opportunities of minorities in skilled and professional occupations.

We begin our analysis with an examination of those provisions of the new immigration law that are germane to U.S. minority workers and briefly discuss competing views of how immigration policies affect U.S. workers. Next we concern ourselves with the status of minorities in the labor force. The focus of this section is on determining the current location and status of minorities in the major occupational categories that comprise the structure of the American work force. This information will provide the basis for an examination of minorities in the professional labor market. It will also provide the basis for examining the linkage between U.S. education and immigration flows and how the focus on immigration ignores educational reforms that are crucial to the access and training of minorities for future labor-market opportunities. In the final section we briefly discuss the implications of our analysis for public policy as well as initiatives that might be taken by government, employers, and educational institutions.

U.S. Immigration Policy, 1965–1990

The Immigration Act of 1990 took effect on October 1, 1991, and represents a comprehensive revision of the visa system established by the Immigration Act of 1965. A primary goal of the legislation is to increase the immigration of European and

other workers who possess special skills, particularly in areas where there is a shortage of such skills among U.S. citizens. The act separates the family-preference system of visa allotments from a newly created "independent" visa category to be granted to people who may not have an employer sponsor but who have special skills, talents, or professional abilities needed in the U.S. work force.

The act is a departure from the "skill-neutral" approach of decades past and therefore places a new emphasis on immigrants' skills and talents. Applicants who do not have close relatives in the United States or who are not sponsored by a U.S. employer can qualify for a visa on the strength of their skills, education, and training. Another purpose of the new legislation, according to its main sponsors, Senators Edward M. Kennedy (Dem., Mass.) and Alan K. Simpson (Rep., Wyo.), is to increase the immigration of western Europeans, who, because the previous system favored foreigners with immediate relatives in the U.S., have had a low incidence of immigration in recent years.

To understand how the new immigration law may affect minority workers, we review selected provisions of the new legislation and briefly revisit the history of U.S. immigration policy and its impact on U.S. workers. Although the Immigration Act of 1990 contains legislation affecting nonimmigrants, temporary workers, criminal aliens, and persons with temporary protected status, we focus on the two areas that concern us most: employment-based immigration and the so-called diversity program.

Major Provisions of the Immigration Act of 1990

The Immigration Act of 1990 establishes a national level of 700,000 visas annually in fiscal years 1992–94 and thereafter an annual allotment of 675,000 visas. It also creates categories of immigrants and allocates specific numbers of visas for each group. Two of these categories are employment-based and diversity visa allotments.

Employment-based Visas

Under the new law up to 140,000 visas a year will be granted to employer-sponsored aliens. Five categories are established for job-based visas: (1) priority workers, (2) persons with exceptional ability or members of the professions, (3) skilled professionals and other workers, (4) special immigrants, and (5) employment-creating investors. Below we describe the first three categories because of their potential effect on U.S. minority participation in the work force.

1. Priority Workers: As the legislation now stands, up to 40,000 visas will be allocated to aliens who can qualify as priority workers described as follows: (1) an alien with "extraordinary ability in the sciences, arts, education, business, or athletics which has been demonstrated by sustained national or international acclaim and whose achievements have been recognized in the field through extensive documentation"; (2) a professor or researcher who is "recognized internationally as outstanding in a specific academic area," who has at least three years' experience in teaching or research in that area, and who seeks to enter the United States to teach or conduct research in that area; (3) a certain multinational executive or manager "who, three years before application, has been employed for at least one year by a firm or corporation and who seeks to enter the United States to work for that firm or corporation in a managerial or executive capacity."

2. Persons with Exceptional Ability or Members of the Professions: Up to 40,000 visas will be provided for immigrants who are members of professions that require an advanced degree or its equivalent or who possess "exceptional ability" (e.g., who have ability in the sciences, arts, or business that will substantially benefit the nation's economy, cultural or educational interests, and the welfare of the United States and whose services in the sciences, arts, professions, or business are sought by an employer in the United States). The act also contains a provision that the U.S. attorney general may waive the requirement that the applicant be sponsored by a U.S. employee if he "deems it to be in the national interest."

3. Skilled Workers, Professionals, and Other Workers: The legislation provides another 40,000 visas for skilled, professional, and various other workers. "Skilled workers" are defined as those capable of performing skilled labor for which qualified workers are not available in the United States and which requires at least two years' training or experience (not of a temporary or seasonal nature). "Professional workers" are defined as immigrants who hold baccalaureate degrees and are members of the professions. "Other workers" are defined as qualified immigrants capable of performing unskilled labor for which qualified workers are not available in the United States (excluding labor of a

temporary or seasonal nature). A ceiling of 10,000 visas is established for those categorized as "other workers." Labor certification is required for all immigrants in this employment-based category.

In sum the employment-based immigration provisions will provide up to 140,000 visas a year: 110,000 visas for professional and skilled immigrants and 10,000 visas for unskilled workers (plus 10,000 visas for "special immigrants including religious workers" and 10,000 visas for foreign investors, each of whom would create at least 10 new jobs for U.S. workers).

Diversity Visas

"Diversity" is not clearly defined in the new legislation, but, as currently spelled out, its intent is to promote more equal access to the immigration system by aliens other than those of Asian and Latin-American countries. Visas in this category are designated for nationals of "low-admission" nations, countries that in recent years have been sending few immigrants to the United States (the act provides that low-admission nations are to be determined by the attorney general on the basis of data available for the five years preceding passage of the act). A limit of 7 percent of natives of any single foreign state has been established for each year. Immigrants to be admitted under this program are required to possess minimum education or occupational skills—at least a high school education or its equivalent or at least two years' work experience in an occupation requiring two years' training or experience. Under the act Northern Ireland is to be considered a separate foreign state rather than a division of the United Kingdom, thereby increasing the number of visas allowed for immigrants from that region.

A transition diversity program will provide for 40,000 visas a year in 1992–94 for nationals of countries adversely affected by the previous immigration law. Beginning in 1995 and in every year thereafter a permanent diversity program will be established to provide for 55,000 visas to be granted in this category each year.

If we sum up all possible immigrant inflows, we can add to the estimated 700,000 legal immigrants (675,000 after 1994) provided under the act 125,000 approved refugees admitted to the United States each year and an estimated 200,000 illegal immigrants. This totals some 1,025,000 immigrants who will enter the United States each year, the second-largest inflow of immigrants in U.S. history.

The Effect of Immigration on U.S. Minorities in the Work Force

A question of considerable concern is how the new immigration law will affect U.S. workers, the labor market, and the future American economy (Bach and Meissner, 1990). Even less well understood are the consequences of the law for the occupational inclusion and prospects of minority citizens. For economic reasons the current reform in the immigration law is viewed by some minorities and U.S. workers as permitting a favorable concatenation of foreign-born labor supplies over native-born labor supplies. This perception is likely to evoke complaints from minority and other groups who by law and custom have not secured their fair share of economic and social opportunities.

What issues concern minority citizens? A primary concern is whether the increased infusion of immigrants into skilled and professional occupations will further weaken the national resolve to improve minority education and employment opportunities. Another concern is whether the law will inadvertently help keep certain employment sectors ethnically and racially exclusive. There is also concern about the possible effects of the law on perceptions. Many minorities already believe that they live under an invisible ceiling that limits their career options and advancement in both white- and blue-collar industries. These are legitimate concerns in the light of past employment discrimination and the current location and relocation of jobs away from urban areas where minorities are concentrated (*Washington Post*, 1991; Jaynes and Williams, 1990). In the next section we look to the future by examining past immigration laws and their effect on the participation of minority citizens in the labor force.

Immigration Policies and the U.S. Labor Force

Before 1965: Immigration policy before 1921 was essentially an open policy for immigrants from European nations, although skilled and unskilled Chinese workers and most other Asians were barred from immigration (Muller, 1989). During the first 20 years of the twentieth century 13,531,000 immigrants (13 percent of the U.S. population in 1920) were admitted to the United States (Borjas and Tienda, 1987).

Between World War I and 1965 several immigration laws were passed. These laws shared several common characteristics, including the restriction of legal immigration, and were enacted principally

in response to social concerns rather than economic pressure (Muller, 1989). The immigration acts of 1921 and 1924 somewhat curtailed immigration and thus benefited two groups, unskilled workers and rural blacks, who took advantage of the increased job opportunities (and higher wages) that opened up in northern urban areas for U.S. workers with limited skills. The increased employment prospects and availability of affordable housing triggered a large migration of rural blacks from the South to northern cities, where they obtained higher incomes, better housing, and greater occupational mobility.

A renewed national interest in immigration followed World War II. The Immigration and Nationality Act of 1952 retained national origin as a primary basis for admission but also introduced the concept of preferential admission of immigrants who possessed skills and talents needed in the United States (Muller, 1989).

The Immigration Act of 1965: The Immigration Act of 1965, amending the 1952 act, was a turning point for U.S. immigration policy. The main objectives of the 1965 act were to repeal the national-origins provisions in effect since 1921, to admit immigrants on an equitable basis regardless of origin, and to make family reunification the primary basis for eligibility. Family reunification thus replaced the possession of skills as the primary criterion for admission into the United States. The law also placed an annual ceiling of 120,000 on admissions from the Western Hemisphere, which resulted in an increase in the numbers of illegal immigrants from Latin America and the Caribbean. The characteristics of immigrant workers changed as a result of the 1965 law, which brought about a sharp rise in immigration from Asia and, to a lesser degree, the Middle East and Africa. Particularly noteworthy was the increase in the number of professionals, including scientists and engineers, who immigrated to the United States from Asian nations. Between 1970 and 1982, 74 percent of all immigrants from third-world countries were classified as professionals. About half of all professional workers entering the United States in 1986 were from Asian countries; European nations contributed just under one-fifth of workers in this category (Muller, 1989). In effect, this act reversed the nationalities of immigrants after 1965. For example, in the 1950s, 70 percent of immigrants were from Europe and Canada. Thirty years later—by the first half of the 1980s—Europe and Canada were contributing only 14 percent. In contrast, Asian immigration increased fifteenfold and made up 40 percent of all immigrants (Chiswick, 1987).

Chiswick (1987) points out that until the 1965 act the kinship preference was the primary means of rationing nonrefugee visas for immigrants from the Eastern Hemisphere, since few Asian-Americans had immediate relatives in Asia. The introduction of occupational preference for professionals and skilled workers provided the opportunity for Asians with skills or capital to migrate to the United States. Once they became established, these immigrants could use the kinship-preference means to sponsor relatives who might not be admissible under the occupational-preference requirements.

"Displacement" of U.S. Workers: Fact or Fiction?

Although immigration has played a central role in the U.S. economy, it has not been used to shape economic policy except in a laissez-faire fashion. The forces of economic self-interest have played tug-of-war with the forces of racial and ethnic prejudice in shaping immigration policy. Public attitudes have been a major constraint on immigration policy, however (Schuck, 1989). The fear that U.S. workers might be "displaced" by immigrant workers has been called "the most emotional and politically-influential fear about immigration in the U.S. and elsewhere" (Simon, 1989, p. 208). This fear is more pronounced among U.S. minorities (Muller and Espenshade, 1985; Reischauer, 1989).

Research on Immigration and U.S. Minority Workers

Simon (1989) describes two common, and, in his view, oversimplified, views of the labor market. The first view gives rise to the fear of job displacement by considering the number of jobs as fixed. In this view, when immigrants take jobs, there are fewer jobs available for U.S. workers. An opposing view assumes a limitless expansion of jobs in response to market changes in wages. Simon (1989) argues that an adequate theory of the unemployment effect of immigration would be more complex but that, unfortunately, an adequate theory does not exist. Instead, there have been attempts to measure statistically the degree to which immigrants have adversely affected the labor-market prospects of U.S. workers.

It has been suggested that the aggregate effect of immigration on the earnings and employment of U.S. workers may be a slight wage depression and job displacement for some U.S. workers (Borjas

and Tienda, 1987). It is also claimed, however, that immigrants may expand employment opportunities for U.S. workers by performing complementary but independent jobs that fill empty niches in the labor market, through entrepreneurial activities and through expanding the demand for goods and services (Borjas and Tienda, 1987; Greenwood and McDowell, 1988; Muller and Espenshade, 1985).

Whether immigrants have a negative or positive impact on U.S. workers depends on whether one views the market as unified or segmented and on the extent to which these workers are complements or substitutes for each other (Muller and Espenshade, 1985). Other factors include the elasticities of the demand for labor; the size and composition of the U.S. labor supply; the characteristics and skills of immigrants; the number of new immigrants and the point at which they enter the labor market; the complementarity between immigrant and U.S. work forces; the condition of the labor market, company, or industrial segment in which immigrants are employed; the consumption behavior of immigrants and the amount of capital they bring with them; and the contribution of immigrants to the creation of new jobs (U.S. Department of Labor, 1989).

There are other differing views of the effect of immigration on U.S. workers. For example, one position argues that an increased inflow of immigrant workers may cause low-wage industries to rely on immigration as a source of unskilled labor. This practice could cause serious problems for blacks and Hispanics, who comprise a large proportion of U.S. low-skilled adult workers (Simms, 1988). Also, it could delay essential structural adjustments in the labor market, such as working conditions, increases in wages, and other changes that would attract more U.S. workers and perhaps benefit the economically disadvantaged. Such adjustments may, however, in the long run, make industries more competitive on both the domestic and the international fronts and enhance U.S. worker opportunities (U.S. Department of Labor, 1989). Another position argues that immigrants take jobs primarily in secondary labor markets, where wages and working conditions are poor. They contend that this process causes little displacement and affects only society's most marginal workers.

Does immigration displace U.S. workers? The truth lies somewhere between positions described above (U.S. Department of Labor, 1989). Overall, immigrant workers complement U.S. workers, but there is evidence of some displacement of U.S. workers in specific entry-level jobs in manufacturing and service industries where there are high concentrations of minorities. For example, black workers in the hotel and restaurant industries in Miami, Florida, once held most of the menial jobs that are now held by immigrant Hispanics. Furthermore, as Cross (1986) points out, even the entrepreneurial class is stronger among Hispanic and Asian immigrants, who can compete more effectively than Native American, Hispanic, and black Americans for capital and credit.

Direct competition between new immigrants and U.S. workers with similar characteristics may increase as immigrants invest in their human capital through education, improve their English-language skills, become more familiar with the U.S. labor market, and progress along established mobility paths (Greenwood and McDowell, 1988; Papademetriou, 1983; Papademetriou and Muller, 1987). The groups who are most likely to be adversely affected are recent immigrants and ethnic minorities with similar characteristics (such as cultural background and level of educational attainment).

What effect do highly trained immigrants, such as those targeted by the act of 1990 have on their domestic counterparts? Heretofore there has been a small but significant number of such immigrants, mostly in the fields of engineering and health science, both areas with labor shortages. In 1986, 15 percent of all physicians practicing in the United States were born and trained abroad (Liebowitz, 1988, in U.S. Department of Labor, 1989); and in 1982 nearly 20 percent of engineers were foreign-born. The fields of science and mathematics, which have witnessed sudden drops in the number of U.S. citizens in postgraduate programs, have come to rely on foreign graduate students and faculty members (U.S. Department of Labor, 1989).

The availability and use of foreign-born professionals in fields in which there is a dearth of U.S. citizens lead us to wonder at the consequences of this practice. Is easy access to foreign workers delaying confrontation of the real problems of an eroding native skill base and deteriorating working conditions? In attempting to answer this and other questions, policymakers must distinguish between short- and long-term solutions. In the short run an infusion of foreign talent may be necessary to fill labor-market shortages. This solution is not, however, adequate in the long run and should not be considered a substitute for upgrading the quality of U.S. education, especially in science and mathematics, or improving working conditions.

Minorities in the Work Force

Although occupational projections can be problematic (i.e., unreliable, outdated), we use them here as a crude profile to compare today's labor force with the way it may look at the turn of the century. Current estimates project that by the year 2000, 141 million persons will be in the U.S. labor force. Between 1988 and 2000, this number represents a net increase of 19 million workers (U.S. Department of Labor, 1990). Two primary factors will produce this growth: changes in the population and changes in labor-force participation rates. The demographic forecast for the first two decades of the twenty-first century is that a large proportion of new entrants into the American work force will be black, Hispanic, and women. Black workers, who were 11 percent of the work force in 1988, are expected to increase to 12 percent by the beginning of the twenty-first century. This projected increase reflects a rise in both the number and the percentage of blacks who will be in the prime-age workforce population (ages 24 to 64). Both growth and higher labor-force participation rates are reflected in the projected number of Hispanic workers, whose share is expected to increase from 7 percent in 1988 to 10 percent by 2000. Women, who were 40 percent of the work force in 1976, are expected to make up 47 percent of the future work force. Roughly 70 to 80 percent of all those who will be working at the turn of the century are already in the work force (U.S. Department of Labor, 1990).

These predictions have not gone without notice by concerned businessmen and politicians. In the last few years we have been inundated by articles and reports that the United States' economic growth may outstrip available labor supplies. Generally, workers benefit when demand is greater than supply because a tight economy provides them a rare opportunity to improve their employment conditions (e.g., higher wages, promotions, improved working conditions). There is concern, however, that the use of employment-based immigration could offset and temper improvements for U.S. workers (Reich, 1991; Bach and Meissner, 1990).

This section briefly examines the current status of minorities in the nation's economy. First we consider the status and location of minorities in the structure of the general labor market. Next we focus on the status of minorities in the professional labor market. Finally we explore the linkage between government and institutional involvement and the current immigration flows and examine the effects of a one-sided policy that focuses on immigration as a solution to the nation's future labor-force needs.

The *Current Population Survey (CPS)* a monthly survey of 60,000 households conducted by the U.S. Bureau of the Census, is the primary source of information on and analysis of the patterns of labor-force participation, occupational structure, and job entrants. Projections of employment occupational growth come from *Occupational Projections and Training Data* (April, 1990), published by the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor. Data from the National Center for Education Statistics and the National Research Council provide additional information on professional and academic labor supplies and employment.

The Status and Location of Minorities in the Work Force

The U.S. Department of Labor defines the labor-force participation rate as that percentage of the population that is employed or actively seeking work. Because of their accumulated income and job inequality, U.S. minority citizens are not on the same path of occupational advancement as that of other groups. The disparity between black and white men in the labor force showed signs of widening as it rose to 5.8 percent in 1988 from 4.9 percent in 1976 (U.S. Department of Labor, 1990). Along with lower work-force participation rates, blacks and Hispanics also have a history of higher unemployment than that among whites in the work force. The steady rise in the black-white unemployment ratio is particularly evident among younger workers (e.g., workers 16 to 24 years old). For example, in 1988 black youth were saddled with an unemployment rate that was almost 2.5 times that of white youth, and, contrary to what one might expect, the gap grew wider from the 1983 to 1988 period of occupational expansion. Even the slower increase of the Hispanic-white ratio from 1.3 to 1.5 times that of whites shows the ubiquitous nature of racial- and ethnic-based unemployment disparities.

Participation rates reflect another growing segment of the work-force population: discouraged workers—individuals who, for whatever reason, have stopped looking for jobs for which they are qualified. They are not counted in official unemployment statistics and represent an important segment of the minority prime-work-age population that is underutilized. Black workers made up about 11 and 10 percent of the work force in 1988 and 1989, respectively, but they made up more than 27 and 28 percent of the discouraged workers in those

Table 1. Discouraged Workers, by Race and Hispanic Origin, 1976–90*
(In Thousands)

Year	Total	White	Black	Hispanic Origin†	Percent Distribution		
					White	Black	Hispanic Origin†
All workers							
1976	925	689	244	—‡	74.5	26.4	—
1977	1,026	723	253	—	70.5	24.7	—
1978	863	597	254	—	69.2	29.4	—
1979	771	551	197	—	71.5	25.6	—
1980	993	673	275	—	67.8	27.7	—
1981	1,103	751	323	—	68.1	29.3	—
1982	1,568	1,042	482	—	66.5	30.7	—
1983	1,641	1,125	470	—	68.6	28.6	—
1984	1,283	823	414	—	64.1	32.3	—
1985	1,203	810	348	—	67.3	28.9	—
1986	1,121	770	297	98	68.7	26.5	8.7
1987	1,026	693	294	106	67.5	28.7	10.3
1988	954	639	261	122	67.0	27.4	12.8
1989	914	558	262	94	61.0	28.6	10.3
1990	929	589	219	120	63.4	23.6	12.9
Workers 16–24							
1982	479	294	172	—	61.4	35.9	—
1983	490	305	172	—	62.2	35.1	—
1984	391	220	159	—	56.3	40.7	—
1985	315	193	110	—	61.3	34.9	—
1986	280	166	100	28	59.3	35.7	10.0
1987	264	162	90	42	61.4	34.1	15.9
1988	217	124	82	34	57.1	37.8	15.7
1989	227	111	89	27	48.9	39.2	11.9
1990	245	144	61	41	58.8	24.9	16.7

*Discouraged workers are those who want a job but have given up looking because they think they cannot find one.
†Hispanics can be of any race, thus totals do not add to 100%.
‡Data not available.
Sources: R. E. Kutscher, Projections Summary and Emerging Issues, in *Outlook 2000*, table 6, and unpublished tabulations from U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C.

years (table 1). In 1990 the rate of black discouraged workers dropped by 5 percent. This reflects a sharp decline in the number of younger blacks and black men who gave up looking for work.

Year-by-year tracking shows unusual fluctuations amoung Hispanic discouraged workers. Hispanics accounted for almost 13 percent of workers who stopped looking for jobs in 1988 but dropped to slightly over 10 percent the following year. By 1990, however, the share of Hispanics who grew weary of searching for work began to grow again, in that year reaching a high of 12.9 percent. Like the share of blacks, the share of Hispanics who stopped looking for work was larger than their overall share in the labor force.

What causes job seekers to give up looking for work? The lack of skills and training? Job discrimination? Until recently there was almost no direct evidence of hiring discrimination in the United States, but a recent study released by the Urban Institute (Turner, Fix, and Struyk, 1991) provides evidence that the "unequal treatment of Black jobseekers is entrenched and widespread" in two major U.S. cities and may be nationwide. In one out of five applicants for entry-level jobs, white applicants advanced further in the hiring process

than equally qualified black applicants. A parallel study conducted by H. G. Cross and associates (1990) found that job opportunities were even more limited for Hispanic applicants than for black applicants. In 31 percent of the Hispanic-white applications white applicants advanced further in the hiring process than Hispanics. Turner and associates (1991) contend that job discrimination could be widespread and a major contributor to the lower black and Hispanic labor-force participation rates and their higher unemployment and discouraged-worker rates. Findings such as these intensify the concerns of minorities about foreign sources of labor.

Minorities in the Structure of Work

Lower labor-force participation rates, higher unemployment, and the growing number of discouraged workers are significant factors but do not tell the whole story about the status of minorities in the work force. To see in greater detail how minorities fare in the U.S. economy and to understand why their economic fate may be tied to employment-based immigration, it is first necessary to view the work that Americans do and the location of minorities in the occupational structure.

In spite of the forecast growth in jobs, the Bureau of Labor Statistics projects very little change in the structure of employment by major occupations and even projects that occupational growth will slow down in the final decade of this century. Table 2 shows how minorities are distributed in the nine broad occupational categories generally used by the BLS.

The table shows that, although black and Hispanic workers will represent an increasing percentage of new job entrants, they currently make up less than 20 percent of the work force and are concentrated in occupations with almost no career potential. Minorities primarily fill jobs that require the least amount of education and training: service occupa-

Table 2. Percent Change in Employment for Selected Occupations, 1988–2000, and Percent of Employment Comprised of Whites, Blacks, and Hispanics,* 1988

Occupation	Percent Change, 1988–2000	Percent Comprised of		
		Whites	Blacks	Hispanics
		1988		
Total, occupations	15	87	10	7
Executive, administrative, and managerial occupations	22	92	6	4
Professional specialty occupations	24	89	7	3
Engineers	25	90	4	3
Computer, mathematical, and operations research analysts	52	86	7	3
Natural scientists	19	90	3	3
Health–diagnosing occupations	24	88	3	4
Health assessment occupations	38	87	8	3
Teachers, college	3	89	4	4
Teachers other than college	18	89	9	4
Lawyers and judges	30	96	2	2
Other professional workers	23	90	8	4
Technicians and related support occupations	32	86	9	4
Health technicians and technologists	34	81	14	4
Engineering and scientific technicians	22	89	7	5
All other technicians	39	88	7	4
Marketing and sales workers	20	91	6	5
Administrative–support occupations, including clerical	12	86	11	6
Clerical supervisors and managers	12	85	14	6
Computer operators and peripheral equipment operators	29	83	14	6

*Hispanics can be of any race.

Source: G. Silvestri and J. Lukasiewicz, Projections of Occupational Employment, 1988–2000, in *Outlook 2000*, Table 11.

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Table 2. *Continued*

Occupation	Percent Change, 1988–2000	Percent Comprised of		
		Whites	Blacks	Hispanics
		1988		
Secretaries, typists, and stenographers	10	89	8	5
Financial recordkeeping occupations	41	90	6	5
Mail clerks and messengers	10	74	22	9
Other clerical occupations	13	84	13	7
Service occupations	23	79	18	10
Private-household workers	–5	76	23	17
Protective-service occupations	23	81	17	6
Food-service occupations	23	83	12	10
Health-service occupations	34	69	28	6
Cleaning-service occupations	20	74	23	15
Personal-service occupations	27	85	12	8
Precision production, craft, and repair occupations	10	90	8	8
Mechanics, installers, and repairers	13	91	7	8
Construction trades	16	91	7	8
Other precision production occupations	3	88	8	9
Operatives, fabricators, and laborers	1	82	15	11
Machine setters set-up operators, operators, and lenders	–3	83	15	7
Transportation and material moving machine and vehicle operators	12	82	16	11
Helpers, laborers, and material movers, hand	2	82	15	13
Agriculture, forestry, fishing and related workers	–5	92	7	13

tions (28 percent), administrative support and clerical occupations (17 percent), agriculture and related work (20 percent), and occupations in the operators, fabricators, and laborers industry (27 percent). Except for service jobs, these occupations are expected to grow more slowly or to decline, and all have below-average earning and career potential.

Hispanics, who are disproportionately represented in the farming, forestry, and fishing industries, will be hard hit because jobs in this class are expected to fall by 5 percent. Unless Hispanics acquire the skills to move into expanding industries, Hispanic farm workers will be displaced through the technological advances that are expected to transform the farming industry. Kutscher (1990) points out that individuals who lose jobs in declining industries are often unable to find comparable jobs in other industries.

Both blacks and Hispanics are heavily represented in service occupations. Of blacks who work in service occupations, 66 percent serve as nursing aides, orderlies, or attendants. Others provide food-preparation and cleaning and building services. Predictions about the future of these industries are mixed; however, Lester Thurow (1989) believes that the demand for service occupations will decline because of expanding job opportunities in other sectors and an increased investment in labor-saving technologies.

Others disagree with Thurow's projections (U.S. Department of Labor, 1990; Reich, 1991). Projections of the BLS show that service occupations will grow by 23 percent and produce more jobs (an estimated 4 million) than any other occupational class. Even if service occupations increase, however, the increase may not occur across the board. The U.S. Department of Labor (1990) predicts a slight dropoff in janitorial and cleaning jobs because of the growing practice of contracting out janitorial services to firms using laborsaving devices. Moreover, as grocery stores cut into the "preprepared"-food industry, the need for various kinds of cooks (e.g., short-order) may dwindle (U.S. Department of Labor, 1990). This process could take a somewhat heavier toll on jobs held by minority men, who in 1990 comprised a slightly higher percentage of service workers in the food industry.

In summary, except for health technicians and technologists, only small percentages of blacks and Hispanics are employed in the five fastest-growing occupations projected for the twenty-first century. Three of the five occupations are in the skilled and professional categories.

Skilled and Professional Employment

There seems no doubt that the projected growth in the economy will provide job opportunities for workers at all levels of education, but the higher-paying occupations will be limited to individuals with advanced education and training (Silvestri and Lukasiewicz, 1990). Because the new immigration law targets immigrants with exceptional skills and abilities, the status of minorities in skilled and professional occupations will be examined. Thereafter we turn our attention to several factors and educational practices that hinder minority access to these occupations and the current involvement of educational institutions in practices that are connected to employee-related immigration and labor markets.

Minorities in Skilled and Professional Occupations

Participation Rates: Current trends suggest that, because of their limited education and skills, more than half of all minority workers will be locked out of jobs with the most desirable career potential. The three fastest-growing occupational categories that require the highest education are (1) executive, administrative, and managerial occupations; (2) technical and related support occupations; and (3) professional-specialty occupations. One might assume that, regardless of race or ethnicity, labor-force participation rates are more uniform at consecutively higher levels of education. While that may be true for new doctorates, where black and Hispanic participation rates are similar to the national average, over 85 percent (Brown, 1988), there is evidence that the labor-force participation rates of minorities are not always comparable to those of whites with similar educational backgrounds and training.

Meisenheimer's (1990) study of black and white workers in the prime-age work force shows that the level of education does not entirely settle the question why labor-force participation rates differ for black and white workers. While college-educated black and white women have similar participation rates (and in some categories black women have higher rates), college-educated black men have much lower participation rates than white men.

Even among scientists and engineers, who generally have high participation rates, minorities report different labor-market experiences from those of whites. The black employment rate (77 percent) trails the rates of both whites (85 percent) and Asians (88 percent). These differences reflect in part the larger percentage of whites and Asian engineers, who have higher employment rates than those of scientists. Even among scientists, however, the black employment rate is considerably lower than the rates of employed whites and Asians except in mathematics, where blacks have the highest rate at 90 percent (National Science Board, 1989).

Unemployment: Even college-educated minorities are plagued by higher unemployment rates. According to Meisenheimer (1990), in 1989 unemployment among black college-educated men was three times higher than that of white men (5.6 percent versus 1.8 percent) and was even higher

Table 3. Civilian Unemployment Rates of College-educated Workers by Race or Ethnic Status, 1990

Years of College	Unemployment Rates			Unemployment-Rates Ratios	
	Hispanic*	Black	White	Black/White	Hispanic/White
All workers					
1–3 years	5.0	7.9	3.7	2.14	1.35
4 or more years	3.5	3.4	2.2	1.55	1.59
–4 years	4.0	4.0	2.5	1.60	1.60
–5 or more years	2.7	2.3	1.9	1.21	1.42
Workers aged 20–24					
1–3 years	6.8	12.2	5.0	2.44	1.36
4 or more years	6.5	10.5	4.4	2.39	1.48
–4 years	7.1	10.5	4.6	2.28	1.52
–5 or more years	2.5	10.5	3.2	3.28	.78

*Hispanics may be of any race.
Source: U.S. Department of Labor, Bureau of Labor Statistics, unpublished tabulations from Current Population Survey, 1976 and 1990 annual averages.

than it was 10 years ago. Black college-educated women were also more likely to be unemployed than college-educated white women (3.9 percent versus 2.3 percent), and their unemployment rate has increased slightly since 1979.

Table 3 shows no letup in these trends. In 1990 the unemployment rate for blacks with one to three years of college training was nearly 8 percent, compared with almost 4 percent for similarly educated whites. This gap in ratio (2.1 to 1) is of about the same magnitude as the disparity between unemployed black and white high school dropouts, where the unemployment ratio of blacks to whites is 2.6 to 1. The difference is somewhat smaller between Hispanic and white college-educated workers, although unemployment is still 1.4 to 1.6 times higher among Hispanics.

Again, the brunt of unemployment is born by younger workers. Table 3 shows that the unemployment ratio among black and white workers 20 to 24 years old ranges from 2.28 to 3.28 higher for blacks. With a gap of almost 3.3 to 1, the black-white difference is greatest among those with five or more years of college training. The disparities are smaller but still evident between Hispanics and whites, except among those with five or more years of college training. At that educational level Hispanic workers are less often unemployed than comparable white workers.

Executive, Administrative, and Managerial Employment

A college education may have a leveling effect on the economic differences between black and white women, but it has not reduced the gap between black and white men. Nor has it increased job alternatives for minorities in the skilled and professional labor markets. Currently minority and white college-educated workers are employed in very different white-collar occupations in the executive, administrative, and managerial professions.

By the turn of the twenty-first century the increasing complexity of corporate activities and the start-up of small firms will promote job growth in executive, administrative, and managerial occupations. Jobs in this occupational category are expected to increase by 22 percent (Silvestri and Lukasiewicz, 1990). In 1988 white managers were employed in 92 percent of the jobs in this category, while only 6 and 4 percent, respectively, were held by black and Hispanic managers.

Although there was a 38 percent general increase in administrative and managerial occupations between 1985 and 1990, there was little spillover to benefit blacks and Hispanics. Minorities have not made much progress in administrative and managerial occupations, and in certain occupations the outlook for minority managers is even more uncertain. For example, minorities made almost no gains in higher-level executive and administrative occupations. Most of their occupational gains were made in unclassified management-related positions such as accounting and auditing. Unfortunately, the future job outlook indicates a moderate decline for accountants and auditors because of productivity increases brought on by computers and software innovations (U.S. Department of Labor, 1990). Unless minorities are able to move into moderate-to-high-growth management occupations such as those in administrative services, construction, industrial production, and marketing, race and ethnic employment disparities will widen in this occupational class.

Technical and Related Support Occupations

Another category expected to expand by the beginning of the twenty-first century is the technical and related support occupations. This occupational category is expected to grow by 32 percent, faster than any other category. Blacks comprise 14 percent of health technicians and technologists, an encouraging indicator, since jobs in this occupational class are expected to account for nearly half of the 1.2 million new jobs between 1988 and 2000 (Silvestri and Lukasiewicz, 1990). Except for black health technicians and technologists, however, minority workers are underrepresented in technical jobs. With only a 4 percent participation rate, Hispanics comprise a small share of technicians, and unless this trend is reversed, they are likely to continue to be poorly represented in these occupations. The sparse representation of blacks and Hispanics among technicians is rooted in past discrimination by trade unions and, more recently, because insufficient numbers of minorities are being trained to move into technical jobs (Cross, 1986; Reich, 1991).

Professional Specialty Occupations

The professional labor market, which includes a number of professions, is also expected to expand by 3.5 million jobs (24 percent). This projected growth represents primarily an increase in the demand for engineers, computer specialists, lawyers, health-related workers, and elementary and secondary schoolteachers.

Presently the share of blacks and Hispanics in the professional labor market is only 10 percent. Moreover, few of these workers are employed in occupations that are vital to the national interest. Blacks and Hispanics represent only 4 percent of all lawyers and judicial workers; 6 percent of all natural scientists; 7 percent of all engineers; 7 percent of all computer, mathematics, and operations research analysts; and 8 percent of all college teachers. Even in elementary and secondary education, a career field in which most members of minority groups earn their degrees (Brown, 1987), surprisingly few schoolteachers (13 percent) are black or Hispanic.

Employment Alternatives for Minority Professionals

Although their share is small, most black and Hispanic professionals are employed as elementary and secondary schoolteachers and, to a lesser extent, in health-diagnosing occupations. This means that, in spite of expanding opportunities for highly skilled workers, job alternatives are not a controlling factor for the occupations filled by college-educated minorities.

For example, a long-term investment in an earned doctorate does not always pay off for minorities desiring access to traditional college teaching and research careers (Brown, 1988). Although there is a dearth of minorities on U.S. faculties, the small supply of minority Ph.D.'s currently exceeds the demand for minorities to fill faculty job openings. Less than 5 percent of all college faculty members are black, and only about 2.5 percent are of Hispanic origin. Minority faculty members with earned doctorates are even more rare. Only 3 percent of black faculty and 2 percent of Hispanic faculty have earned doctorates, and in science and engineering their proportions drop to 1.7 and 1.6 percent, respectively (Brown, 1990). Among engineers with confirmed employment plans in 1989, only 32 percent of blacks and 37 percent of Hispanic engineering Ph.D.'s had confirmed plans to pursue teaching and research careers in engineering, one of the fastest-growing fields in the academic job market (Syverson and Forster, 1986).

Lest one is left with the impression that there is fierce competition between the academic and nonacademic employment sectors for minority Ph.D.'s, it is important to point out that minorities comprise only a small percentage of highly trained professionals in nonacademic employment. For instance, in 1987 less than 3 percent of all Ph.D. scientists and engineers in the nonacademic labor force were black or Hispanic (Brown, 1990). Thus in both the academic and nonacademic labor markets virtually all of the professional employees are white.

The Utilization of Minority Human Resources

Why are trained minorities unemployed or employed only part time? Why are they not using their training and skills in designated "shortage" jobs that the government is trying to fill with immigrant labor? The evidence reflects a certain tension between these two questions. Although some progress has been made in the number of minorities with college degrees, the relative advantage of a college degree has been offset by changes in the economy (e.g., recessions, oversupply of Ph.D.'s). Furthermore, as noted in the Introduction, the United States is still struggling with how to settle past inequities.

Hiring Practices: The criteria for hiring have become so politicized that black Americans still see themselves as victims of discrimination, while white Americans believe that past inequities have been redressed, "if not tilted against [whites]" (*Newsweek*, 1991). Space does not permit a complete review of minority hiring practices in the general professional labor market; however, the academic labor market provides a good example of how the controversy over hiring practices has hampered the access of minorities during recessionary periods.

Five-year trends show very little change in the participation of minorities on faculties of U.S. colleges and universities during the 1980s (Brown, 1990). Even in the career fields where minorities earn most of their degrees (e.g., education, social sciences, social work), their numbers are far below the expected level (Silver, Dennis, and Spikes, 1989; Washington and Harvey, 1989).

Education is a prime example. In 1989, 34 percent of all minorities earned their Ph.D.'s in education, but only 9 percent had confirmed plans to join the professoriate at the time they received their doctorates. Black Ph.D.'s, nearly half of whom earn their doctoral degrees in education, are the most underrepresented. A current survey of U.S. faculty (National Center for Education Statistics, 1990) shows that only 7 percent of full-time faculties in departments of education are black and that most of these are concentrated in traditionally black institutions (Washington and Harvey, 1989).

These small numbers have not influenced the attitudes of faculty toward racial and ethnic diversity. The Carnegie Foundation's (1989) nationwide

survey of faculty members found that almost three-fourths (71 percent) were satisfied with or had no opinion about the pace of affirmative action on their campuses. Engineering departments had the highest rate of faculty with satisfied or indifferent attitudes (81 percent), even though nationally engineering has the lowest percentage of black and Hispanic faculty.

Nonacademic Employment: On the heels of the civil-rights movement minority career patterns gradually began to shift. The recent trend of minority Ph.D.'s pursuing nonacademic careers reflects both a sluggish academic market and promising opportunities in government, business, and industry. Traditionally new minority Ph.D.'s were almost exclusively confined to teaching careers in traditionally black colleges and universities (Fleming, Gill, and Swinton, 1975).

The percentage of U.S. minority Ph.D.'s in 1989 with confirmed plans for nonacademic employment ranged from 18 to 37 percent. In this sector business and industry are the major employers of blacks and Hispanics, particularly of Ph.D.'s in computer-science, chemistry, and engineering fields. Local, state, and federal governments, conventional employment alternatives for these groups, are the second-largest nonacademic employers of minority Ph.D.'s—primarily in the categories of the professions and engineering (Brown, 1988). Over a 15-year period from 1975 to 1990 the number of minorities with plans to pursue nonacademic careers increased by 11 percent.

Working out of Field: Many minority Ph.D.'s in the nonacademic sector are working outside their doctoral fields. "Field-mobile Ph.D.'s," as such workers are called, reflect shifts in the labor market, and the transfer from one field to another tends to differ by Ph.D. specialty. Black and Hispanic Ph.D.'s in the humanities and social sciences are more likely to work out of field than those in the technical sciences and engineering (Brown, 1988). Technical and physical-science Ph.D.'s tend to move to field-related occupations. For example, black and Hispanic mathematicians frequently switch to computer- and information-science occupations, and physicists are inclined to take jobs in engineering.

Why are highly trained specialists working out of field? In rank order, the two most important reasons given by blacks and Hispanics were: (1) the jobs they took offered more attractive career options, and (2) they could not find work in their doctoral specialties (Brown, 1988). Field switching also presents an opportunity for minorities to use their skills in higher-paying occupations—the third most important reason given by black and Hispanic Ph.D.'s for working in other fields. This reason may also explain the shift of mathematicians to engineering occupations in the nonacademic sector, particularly since the supply-demand ratio for mathematicians in the academic job market is fairly balanced (Syverson and Forster, 1986, p. 6).

Part-Time Employment: Part-time employment is rarely a preferred option for black and Hispanic doctorates (Brown, 1988), and very few Ph.D.'s are employed part time, perhaps preferring to work out of field. Among Ph.D.'s employed part time, Asian Americans are two and one-half to three times more likely than blacks or Hispanics to prefer part-time employment, while blacks (48 percent) and Hispanics (27 percent) generally take part-time jobs because they are unable to find full-time employment.

Thus, from the standpoint of part-time work, minorities with doctorates are not underutilized. If, however, we consider those who work out of field, are unemployed, or are underemployed, there is ample evidence of underutilzation of trained minorities. Underutilization is particularly evident in the scientific fields in which there are anticipated labor shortages. The National Science Foundation's report *Women and Minorities in Science and Engineering* (1990) shows that the underemployment rate of black scientists and engineers (5.5 percent) is more than twice the rate of white scientists and engineers (2.5 percent). The higher rate of blacks is evidence of the underemployment of black social scientists, who, at 13 percent, have the highest rate. The overall underemployment rate of Hispanics is 4.8 percent, and the underemployment of Hispanics in the life sciences, the social sciences, and psychology is 8.2 percent.

Even minorities in academe believe that their skills are underutilized. J. R. Silver and associates (1988) found that a major concern of black faculty in traditionally white colleges and universities related to their work. Two-thirds said that their skills were underutilized by their institutions. For example, in the area of teaching assignments, both Hispanic and black faculty are often hired by predominantly white institutions to teach in specialties such as race relations and are not afforded the opportunity to teach across the range of their Ph.D. disciplines (Garza, 1988).

Education: Gateway to the Marketplace

Swings in the labor market have a definite effect on American higher education, which is acutely sensitive to expansions and retrenchments in the nation's business cycles. During expansionary periods the surge in college and university enrollments provides a national hedge against personnel shortages. In a less than robust economy enrollment and graduation rates are depressed to offset labor excesses. The historical record shows, however, that the American educational experience is not inclusive of all groups. The educational attainment of minority students lags far behind that of white students at every point in the educational system. Tracking the educational progress of minorities reveals several prominent and troublesome trends in their precollege education. For example, despite improvement in their performance on most standardized tests, the test scores of black and Hispanic students are well below those of white students in all subject areas (National Center for Education Statistics, 1990). In science and mathematics 13- and 17-year-old black students lag several years behind their white peers (National Science Board, 1989). The effects of the lagged attainment of minority students follow them into high school and college so that major losses to all fields occur long before they enter college.

High School Dropouts

The failure to complete high school is an important contributor to these losses. During the 1980s high school dropout rates declined for all groups, but dropout rates are still highest for minority students. In 1987 the three-year average showed a dropout rate of 4.6 percent for white high school students compared to 6.7 percent for black students. At 9.5 percent the Hispanic dropout rate is higher than the rates for both black and white students and has fluctuated around that level for the past 10 years (National Center for Education Statistics, 1990).

A more important measure of the nation's success in educating its citizens is the rate of high school completion, which includes dropouts who later return to finish their high school education. Since 1965 the gap between blacks who complete high school (83.3 percent) and whites (86.3 percent) has shrunk, though blacks still trail whites by a slight margin. Hispanics, however, lag far behind both groups. Only 59.9 percent of Hispanics complete high school by the age of 29.

Today a high school diploma does not go as far as it did a decade ago, and the value added by completing high school will continue to decline as the credentials required for jobs increase (U.S. Department of Labor, 1990; Reich, 1991). Meissenheimer (1990) demonstrates that a college education provides more economic security than a high school education, and the difference is measurable. For instance, the employment ratio for black men with college degrees is 9 percent higher than that for black men with high school diplomas. Between black women in the two groups there is a 20-point difference. Thus, while education does not ensure labor-force participation, earning, or occupational parity with whites, it does open the door to job opportunities that are usually closed to untrained minority workers.

Barriers to Higher Education

The failure to complete high school is a significant factor in college-going rates, but for those who complete high school, there are other barriers. In addition to inadequate elementary and secondary educational preparation for higher education, educational policies and practices also contribute to the scarcity of college-educated minorities: inadequate recruitment and retention procedures in higher education, an insufficient supply of minority faculty role models and mentors, and government policies that reflect the administration's unwillingness to commit the resources needed to improve the education of all of its citizens (Halberstam, 1991; Reich, 1991). It is at this level that minorities fall even further behind whites in the education pipeline.

Table 4 shows that as the level of education rises the percentage of minority enrollment and degree attainment falls. The proportional decline of black, Hispanic, and American Indian students is obvious by the time they reach graduate school, demonstrating that the loss is additive for minority students as they advance through the educational system. In contrast, the fraction of white and nonresident alien students remains fairly uniform or increases. Nonresident alien students in U.S. institutions are particularly strong at the graduate level. Their participation rate in graduate education is almost 1.3 times the combined rate of American Indian, black, and Hispanic students.

Even when minority citizens are fortunate enough to go to college and earn degrees, they do not earn degrees in career fields that are expanding. Blacks and Hispanics are overrepresented in education and the social sciences and underrepresented in the technical and life sciences and engineering (S-E), particularly at the master's and doctoral levels (Brown, 1990). In 1986 the percentage of S-E

Table 4. Percent of Total Enrollments and Degrees by Educational Level, Race or Ethnic Status, and Citizenship, 1986–87, 1988

	Am. Indian	Black	Hispanic	White	Nonresident Alien
		Enrollment, 1988*			
High school to college†	—	11.0	6.0	84.0	—
Undergraduate	0.04	9.2	5.6	78.8	1.8
First professional	0.04	5.3	3.5	83.6	1.0
Graduate	0.04	5.0	2.1	78.3	10.3
		Degrees, 1986–87			
High school diploma	—‡	14.3	6.7	81.8	—
Associate	0.7	8.1	4.4	82.9	1.0
B.A.	0.4	5.7	2.7	84.9	3.0
M.A.	0.4	4.8	2.4	79.1	10.3
First professional	0.4	4.8	2.9	87.5	1.2
Ph.D.	0.3	3.1	2.2	71.8	19.4

*Excludes Asian-American students.
†Includes college enrollments of high school graduates.
‡Numbers too small to calculate percentage.
Source: National Center for Education Statistics, *Digest of education statistics, 1990* (Washington, D.C.: U.S. Department of Education, 1991), tables 191, 233, 234, 236, 238.

degrees earned by blacks fell from 25 percent at the bachelor's level to 13 percent at the doctoral level. Hispanics dropped from 26 to 15 percent between the bachelor's and master's levels but then climbed to 25 percent at the doctoral level. The relative increase at the doctoral level reflects Hispanics' heavier concentration in the life sciences than in the technical sciences and engineering.

The latest figures from the National Science Foundation (1991) show that the combined fraction of American Indians, blacks, and Hispanic Ph.D.'s made up less than 4 percent of the total doctorates awarded in all S-E fields (including social and behavioral science) in 1990. That is an increase of only 1 percent over the percentage of S-E degrees earned in 1980. Moreover, the number and proportion of black S-E doctorates has dropped below the levels of a decade ago. The drop in black doctorates signals a disturbing trend and should be of special concern to government policymakers and employers who voice concern about future occupational shortages in scientific and technical fields.

Government and Institutional Involvement: The Education of U.S. and Foreign Students

The predicted expansion and transformation of the U.S. economy beyond its national borders requires that the nation enlarge its domestic pool of trained minorities and women so that these groups can gain the problem-solving skills that will be required by a high-technology and service-oriented economy. The political reasoning behind the newest immigration reforms ignores education as a means of managing the nation's future work-force needs. Policymakers have not acknowledged that the education and training of U.S. workers and immigration are two sides of the same issue. Both are necessary to solve future job shortages, but only lip service is given to retooling the domestic work force. That is evident in the government cutbacks of the 1980s, which reduced public funds to train and retrain workers by almost 60 percent (Center on Budget and Policy Priorities, 1989). The administration's failure to address domestic education and training while advancing immigration reforms is a shortsighted policy that may compound future labor problems.

It is obvious that the continual lag in the supply of better-educated minority workers and the expansion of occupations that require more education are incompatible trends. Clearly, one fact is decisive for minorities in the future economy. Barring significant educational reforms, the gap between minorities and white workers will grow wider in labor-force participation rates and job opportunities. While Americans are aware of the need for a well-educated and trained work force, the gov-

ernment's unwavering position and lack of more investment in education and training programs is justified simply by, "We cannot afford it."

Financing Graduate Education, Domestic and Foreign

That leads to the questions, What can we afford? and What institutional adjustments should be made to accommodate less affluent citizens? Government cutbacks, rising tuition rates, and falling family incomes close off graduate education to many minority students. Certainly the debt burden of education that many minorities experience is a major deterrent to their access to and persistence in graduate education (Hauptman, 1986; Nettles, 1988; Thomas, Clewell, and Pearson, forthcoming; Trent and Copeland, 1987). The production of U.S. minority doctorates has become so stagnant that the strong participation of foreign students in graduate programs now produces 3 times more foreign doctorates than the combined number of American Indian, black, and Hispanic doctorates. In engineering, foreign nationals earn more than 17 times the combined doctorates earned by these groups.

How do foreign students finance their graduate education? We can see in table 5 that the primary sources of financial support for foreign and U.S. minority doctorates are very different and that the patterns are consistent. The most striking difference is the amount of funding provided for foreign nationals by U.S. educational institutions, supporting Bach and Meissner's (1990) contention that educational institutions are already involved in adjustments that shape the connection between immigration flows and labor markets.

In the physical sciences and engineering foreign students, both permanent and temporary residents, receive 60 to 70 percent of their support from university funds. Not only do minority students in these fields receive relatively less institutional support, but, in general, larger proportions of their financial support come from personal income. Foreign students receive less university support in the life sciences, social sciences, the professions, and education, but their level of support is generally higher than that provided to U.S. citizens.

Why should we point out how foreign graduate education is financed? There are three points of significance. First, graduate education is expensive, and university resources are limited. It would seem that top priority for university funds should be given to U.S. citizens, particularly in the physical sciences and engineering, where minorities are underrepresented and where personnel shortfalls threaten American world leadership.

This is not to suggest that no university funds should be allocated to foreign students. The allocation of some funds to support the education of foreign nationals seems appropriate, but the amount of financial resources earmarked for foreign doctoral students looks excessive in light of the drastic cuts in federal funds and guaranteed student loans for U.S. students.

The economic self-interest of U.S. institutions and industry may be at the heart of the issue. Because of the low number of U.S. students attracted or recruited into engineering, education in that field would suffer personnel shortages if it were not for the training of foreign students. Industry also has a high stake in the number of foreign students being produced by U.S. institutions, since high proportions of such students secure employment in the United States after graduation (Finn, 1985). There are, however, U.S. students, particularly minorities, who are available to enter engineering and scientific fields given sufficient financial and market incentives. The question of finding U.S. students of the quality of foreign students has been raised as a concern of engineering departments, yet nearly 90 percent of the undergraduates enrolled in engineering are drawn from among the brightest U.S. citizens (Drucker, 1988). By any gauge it is perplexing that upwards of 60 percent of the engineering doctorates are awarded to noncitizens.

The second point of significance is related to the first. Graduate education benefits the whole society, not just the individual. The value added to the national economy by the contributions of its citizens comes through increasing levels of education and training (Halberstam, 1991). Despite Reich's (1991) prediction of a global economy in which nations will compete for highly trained specialists, there is little emigration of American doctorates to foreign countries, particularly of minority doctorates. The National Research Council's summary reports show that, over time, more than 90 percent of all American doctorates work in the United States after graduation. Yet we have seen that, even with a four-year college education or a Ph.D., non-Asian minorities are not fully employed and are often unemployed.

With a sizable percentage of foreign students remaining in the United States, some sectors may be growing dependent on foreign talent to fill professional and industrial positions (Barber and Morgan, 1985). Almost 75 percent of new engineering assistant professors are foreign-born, and

Table 5. Primary Sources of Support for Foreign and U.S. Citizens by Race or Ethnic Group and Broad Fields, 1989
(In Percent)*

Physical Sciences

	Foreign		U.S. Citizens			
	Perm.	Temp.	Black	Am. Indian	Hispanic	White
Personal	11.8	5.3	25.8	23.5	11.3	18.1
University	70.0	70.1	38.7	47.1	51.6	55.4
Federal	15.5	15.7	22.6	23.5	29.0	21.7
Other	2.7	8.9	12.9	5.9	8.1	4.8
Percent Ph.D.	16.7	23.2	2.8	19.4	12.0	14.0

Engineering

	Foreign		U.S. Citizens			
	Perm.	Temp.	Black	Am. Indian	Hispanic	White
Personal	20.5	9.8	23.8	14.3	31.3	22.0
University	60.7	61.9	38.1	28.6	25.0	47.0
Federal	12.0	12.0	4.8	57.1	18.8	20.4
Other	6.8	16.8	33.3	0.0	25.0	10.5
Percent Ph.D.	22.5	29.2	2.8	7.5	5.0	7.7

Life Sciences

	Foreign		U.S. Citizens			
	Perm.	Temp.	Black	Am. Indian	Hispanic	White
Personal	25.8	11.5	18.8	0.0	17.1	29.3
University	50.2	52.5	47.8	62.5	39.5	41.2
Federal	13.1	8.7	23.2	37.5	36.8	26.2
Other	10.9	27.4	10.1	0.0	6.6	3.3
Percent Ph.D.	16.0	17.3	9.2	12.9	14.0	19.9

Social Sciences

	Foreign		U.S. Citizens			
	Perm.	Temp.	Black	Am. Indian	Hispanic	White
Personal	48.2	25.3	48.9	62.5	61.3	59.1
University	38.2	50.5	30.4	25.0	27.0	32.8
Federal	3.7	4.6	17.0	12.5	6.3	5.9
Other	9.9	19.6	3.7	0.0	5.4	2.2
Percent Ph.D.	13.8	12.3	20.1	19.4	21.0	18.2

*Percentages do not total 100 because unknown cases are omitted.
Source: National Academy of Sciences, National Research Council, *Summary report, 1989* (Washington D.C.: Office of Scientific and Engineering Personnel, 1990).

Table 5. *Continued*

Humanities

	Foreign		U.S. Citizens			
	Perm.	Temp.	Black	Am. Indian	Hispanic	White
Personal	41.6	24.0	43.1	57.1	43.0	52.1
University	52.6	56.4	31.3	28.6	44.6	43.6
Federal	1.7	2.5	3.9	14.3	4.1	2.0
Other	4.0	17.1	15.7	0.0	6.8	2.3
Percent Ph.D.	13.0	5.3	8.9	7.5	14.0	11.9

Education

	Foreign		U.S. Citizens			
	Perm.	Temp.	Black	Am. Indian	Hispanic	White
Personal	57.3	38.8	76.9	81.0	68.6	80.6
University	34.4	27.4	16.6	4.8	14.0	12.7
Federal	0.8	3.7	2.4	9.5	12.4	2.1
Other	7.6	30.1	4.2	4.8	5.0	4.7
Percent Ph.D.	10.1	6.7	48.0	25.8	26.0	21.9

Profession/Other Fields

	Foreign		U.S. Citizens			
	Perm.	Temp.	Black	Am. Indian	Hispanic	White
Personal	43.9	27.5	71.1	100.0	61.9	61.1
University	50.0	53.3	15.6	0.0	23.8	31.3
Federal	0.0	1.4	0.0	0.0	4.8	4.9
Other	6.1	17.8	13.3	0.0	9.5	2.7
Percent Ph.D.	7.9	6.0	6.7	7.5	4.0	6.5

most of them received their graduate degrees in the United States (Drucker, 1988). With less than 3 percent of all engineering faculty being black or Hispanic, the challenge to "grow our own" seems imperative.

The third point of significance is that many U.S.-educated foreign students will more than likely become a part of the contingent of immigrant "priority workers"—"aliens with advanced degrees or exceptional ability" and other professionals covered by the employment-based provisions of the new immigration law. Because these graduates will stay on as employees and outnumber minorities in high-growth fields (e.g., computer science, engineering, and the physical sciences), the administration's argument that we cannot "afford" more investment in education is a non sequitur. If U.S. institutions and U.S. tax dollars can be used to *train and financially support* foreign nationals, then we are investing resources without priorities. Furthermore, when we *recruit U.S.-educated foreign (rather than U.S.) citizens* for U.S. employment, as is currently the practice, we are in fact training "employment-based" immigrant workers rather than gaining already trained workers through the provisions of the immigration system. Accordingly, the immigration process becomes simply pro forma.

Because foreign students are now narrowly concentrated in certain fields and industries (e.g., engineering, business, and industry), we can anticipate that these fields may become ethnically exclusive. In this sense we are sacrificing the diversification of a work force that could include more minority citizens. Quite apart from the impact on minorities, another troublesome matter is that we

are producing in large numbers highly trained noncitizens who will posses sought-after skills that cannot be sheltered from global competition with other nations in the world economy (Reich, 1991).

Because these are interrelated issues, they have a direct bearing on who will work, in what jobs they will work, and how much they will earn in the U.S. work force. If American workers no longer have the protection of earlier economic periods and if Reich (1991) is correct, the shift toward national corporations operating in a global economy will lead to a situation where the law of supply and demand no longer respects national boundaries. Nor will the future bode well for most minority workers, who will be disfranchised by inadequate education and training. As Reich points out (1991, p. 245):

> Routine producers, confronted with an immense and rapidly growing pool of unskilled and semi-skilled laborers worldwide, find their incomes slipping and their jobs disappearing. In-person servers, while largely sheltered from direct competition, suffer the indirect effects and find themselves in an increasingly precarious position. A shrinking labor pool within America's border may ease their plight somewhat in the future, but competition from workers who otherwise would have entered into routine production, from immigrants, and from labor-saving machinery may offset much of the gain. Primarily as a result of these trends, the earnings of Americans . . . have begun to diverge. Hence the challenge: to improve the living standards of the majority of Americans now occupying the two latter categories, who are losing ground in the global economy.

The real question, then, is, Can the United States identify a program of positive economic nationalism that does not reject immigrant talent yet favors the development of the potential of the most basic national resource—the American people? It is to this question that we turn next.

Integrating Human-Resource Development and Immigration Policy: A Modest Proposal

Immigration: A Solution to U.S. Work-Force Needs?

In the preceding sections of this paper we considered the question whether the "employment-based" provisions of the Immigration Act of 1990 are a primary solution to future labor-force shortages and, like others, determined that the answer to this question is no. Three compelling arguments that are germane to this discussion support our conclusion. First, the answer is no because there is evidence that, rather than a labor-force shortage in absolute numbers, the shortage is a result of skill mismatches and the uneven distribution and regional concentration of economic growth and jobs. Second, the answer is no because there is ample evidence of well-trained minorities who are underutilized (underemployed, unemployed, discouraged) in the U.S. labor force. Third, the answer is no because there is an abundant pool of minority and other citizens who, with education and training, can fill the positions that will be available in an era of expanding opportunity (Bach and Meissner, 1990; Halberstam, 1991; Reich, 1991).

Furthermore, it is doubtful that the new legislation will do more than past immigration law to increase the supply of skilled labor (Bach and Meissner, 1990). If the 1990 changes in the immigration law are not a sufficient or appropriate long-term solution to the projected job shortages, what is?

We submit that a policy that utilizes immigrant talent and develops the nation's native talent is a more responsible and credible approach to the problem. Bach and Meissner (1990) advise against turning to immigration to solve U.S. work-force problems. They propose instead that policymakers steer clear of fundamental immigration reform and adopt an exploratory approach that targets labor markets currently dependent on employment-based immigration and that tests techniques for solving the labor-shortage problem. They also believe that a process of trial and error will identify the best solutions to labor problems, which can then be applied more broadly by Congress. They point to two pieces of legislation that exemplify efforts to link human-resource development objectives with immigration measures. One of these is Senator Frank Lautenberg's (Dem., N.J.) amendment to the Senate's immigration bill that requires the secretary of labor to estimate national labor shortages and to disseminate information on "shortage-sector" jobs to individuals and agencies around the country. The other example is the Immigration Nursing Relief Act of 1989.

The Immigration Nursing Relief Act of 1989 (H.R. 1507) requires that the government certify disruptions that could occur if foreign nurses are not recruited. Applicants must be offered the prevailing wage, and the health unit hiring the immigrants must take steps that will lead to placing U.S. nurses in those positions. The law requires that the employer adopt a state-approved plan for recruiting and retaining U.S. nurses that includes training, career development, reorganization of the workplace, and other features that will enhance the job. The plan is designed to attract new trainees to the

nursing profession as well as to bring trained nurses back into the field.

The "Grow Your Own" Approach: Investment in Human Capital

A prominent feature of the Immigration Nursing Relief Act is the "grow your own" approach. Bach and Meissner (1990) have suggested that labor-force shortages "can be overcome by aggressive public and private investment in human capital improvements" (p. 9). This view is echoed by Halberstam (1991), who also suggests that investment in human capital is beneficial to a nation. He credits the Japanese educational system with being partly responsible for that nation's economic preeminence: "The Japanese believe that if they educate their people well, if the educational system works, then all else will take care of itself" (p. 112).

What Are the Answers?

How can we effectively address the three issues that are fundamental to the involvement of minorities in the future work force? Elizabeth Dole, speaking as secretary of labor-designate, acknowledged that "the most valuable asset we as a nation possess is our work force" (U.S. Senate, 1989, p. 113). Publications representing business and industry, such as *Business Week* and *Fortune*, have also acknowledged that, with the changing demographics, employers will have to depend increasingly on a more "inclusive" pool of workers. As a special report in *Business Week* (1988) put it: "The years of picky hiring are over. Vicious competition for all sorts of workers—entry-level, skilled, seasoned—has begun. Employers must look to the nonmale, the nonwhite, the nonyoung" (p. 112).

In 1989 the U.S. Senate Committee on Labor and Human Resources held hearings to examine several alternatives to cope with a projected labor shortage while facing a poverty surplus and educational gaps in the labor force. Among those giving statements was Secretary of Labor Dole, who, in acknowledging that minorities and "other groups traditionally left behind" would be in demand by employers, called for investment in education and training for these groups. Secretary Dole continued: "We must act now if we are to avoid the haunting possibility of a permanent underclass of 'unemployables,' concentrated in poor, inner city neighborhoods afflicted by drugs and crime, and isolated from the nation's economic and social mainstream" (U.S. Senate, 1989, pp. 108–109).

Throughout the hearings there were repeated acknowledgments by individuals as politically diverse as Senators Edward Kennedy (Dem., Mass.) and Strom Thurmond (Rep., S.C.) of the pressing need to invest in training and education as a way to integrate minorities into the work force and, at the same time, to use these initiatives to break the cycle of poverty that entraps many minority citizens. Senator Kennedy described the situation as follows: "We have a labor shortage and a poverty surplus, and with the right policies, we could use them to solve each other" (U.S. Senate, 1989, p. 2). The senator went on to outline some of those policies, including increased investment in education and training programs. Senator Thurmond, while less specific in his recommendations, stated that "we need to reassess our assistance to minorities and try to help them all that we can" (U.S. Senate, 1989, p. 216). Indeed, the labor-market shortages have been hailed by many as an opportunity to narrow the income gap that has widened among groups in the 1980s (Kutscher, 1989). A report on labor-market shortages by Secretary of Labor Ann McLaughlin states: "For U.S. workers, and particularly those who have been generally outside of the economic mainstream, labor shortages represent a golden opportunity for improved job prospects, higher wages, more promotions, and better working conditions" (U.S. Department of Labor, 1989).

In most of the statements supporting the integration of minorities into the work force, there has been the acknowledgment, implicit or explicit, that the educational system has failed to provide adequate preparation for these groups to compete on an equal footing with whites in the labor force. Any policies to prepare U.S. minorities for labor-force participation in the areas where job shortages are most critical must involve the improvement (and perhaps restructuring) of the educational system for minorities at all levels of the education pipeline (Rumberger and Levin, 1989).

In spite of widespread support for the preparation of U.S. workers, particularly minorities and women, to fill projected shortages, there is no explicit national policy to address this issue. The Immigration Act of 1990 contains a provision that instructs the secretary of labor, in consultation with the secretary of education, to provide grants to states for the education and training of U.S. workers based on the location of foreign workers, persons requiring and desiring assistance and training, and U.S. workers who are unemployed and underemployed. The provision does not specifically address the underutilization of U.S. minority workers, nor does it acknowledge the need to improve

education and access to education for U.S. minorities.

While it is conceivable that individual states might use the funds to address these issues, there also exists the danger that the "quick fix" represented by the new immigration legislation will prove a palliative to the sense of urgency that first greeted the projected labor-market shortages. It threatens to weaken the resolve expressed in many of the documents quoted above to make "U.S. workers . . . the primary beneficiaries of labor shortages, which tend to engender improved job opportunities, wages and working conditions. This is particularly true for minorities, women, the handicapped, the disadvantaged, and other groups which have had difficulty entering the economic mainstream" (U.S. Department of Labor, 1989). Below we consider several initiatives to increase the job opportunities, educational levels, and training of U.S. workers as a long-term solution to the projected shortages.

Revitalizing the U.S. Work Force: Recommendations for Government, Employers, and Educational Institutions

There are powerful arguments for the development of both short- and long-term policies for the education, training, and employment of U.S. workers. These policies should focus on encouraging adjustments in all employment markets as well as in educational and training institutions. A varied approach is necessary to address the problem. First, the national labor market must be given the time and opportunity to adjust to uneven economic growth through interregional migration (as in the migration of black workers from the rural South to the industrial North). Second, qualified minority workers must be fully utilized in the labor forces. Third, employers and educational institutions must make adjustments to facilitate the training and employment of U.S. workers.

What are some of the initiatives that might be taken by the government, educational institutions, and employers to accomplish these tasks? Focusing on the three labor-force problems that are relevant to minorities, the following section provides suggested answers to this question.

Recommendations to Solve Mismatches in Jobs and Skills

There are several ways that government and employers in the private sector might address the problems of skill mismatches and uneven distribution and regional concentration of jobs. They include the compilation and active dissemination of information on shortage-sector jobs to the appropriate audiences and the reasonable locations of plants to increase accessibility to work.

Compiling and Disseminating Information on Job Shortages: The government, through the BLS, develops and disseminates information on labor-market conditions, including labor shortages. The Immigration Act of 1990 directs the secretary of labor to publish and distribute widely an annual list of labor shortages and other pertinent information and to submit a report to Congress describing actions taken during the previous 12 months to reduce labor shortages. Such information might be utilized in the following ways:

1. The BLS regional offices, state and local employment services offices, and the programs of the Job Partnership Training Act of 1982 might be vehicles for conveying labor-shortage information on a regular basis to employers, guidance counselors, vocational educators, labor unions, job training and placement agencies, and appropriate federal and state officials. A special effort should be made to publicize labor shortages in minority publications and media and through minority organizations.
2. State and local employment services offices might assist employers in matching U.S. workers from other states or regions to employer shortages.
3. The role of the EEOC could be expanded to ensure that the construction of new plants does not, by their location, discriminate against minority workers (Cole and Deskins, 1988).

Job Accessibility: There are several ways in which employers can collaborate with the government in promoting the accessibility of jobs:

1. Employers who expect to experience shortages might make these known to state and local employment services for dissemination to other states and localities. They might also make an effort at nationwide recruitment and provide moving and resettlement expenses to job seekers from other areas.
2. Employers can locate plants in areas where there are U.S. minority workers with the required skills to fill job openings. State subsidies should be tied to the practice of locating plants in areas of greatest access for U.S. minorities.

Recommendations to Counter the Underutilization of Minority Workers

Many of the proponents of investment in national human-capital development have pointed to the underutilized talent concentrated among women, black, and Hispanic citizens. We have shown the extent to which both college-educated and unskilled workers are underutilized through unemployment, underemployment (e.g., part-time employment, lower-status jobs), and discouragement. Minorities are disproportionately underrepresented in the private sector, and nonwhite males are less likely to receive managerial or professional-technical training than their white counterparts (Mangum, 1989). Even highly trained minorities are paid less than whites with comparable training and are given fewer opportunities to advance.

Brown's (1988) and Meisenheimer's (1990) findings of the comparatively slower career progress of minority college graduates and college faculty and our findings concerning minority professionals are not uncommon. In a study conducted by Silver and associates (1988), nearly three-fourths (73.1 percent) of black college faculty members of traditionally white institutions believed that their skills could be better utilized. The following recommendations are in line with the need to make better use of the talent already possessed by highly trained minority workers:

Government has traditionally employed more U.S. minorities with advanced degrees than has the private sector. A plan to recruit, promote, and retain U.S. minorities in positions where there are shortages in federal, state, and local government agencies will be of benefit to both the employer and the employed. Many scientists and engineers are employed by the federal government. For example, in 1984, 35 percent of natural scientists and 36 percent of engineers with graduate degrees were federally employed (Finn, 1988). Most of these jobs cannot be given to foreign nationals because they are classified by law as sensitive to national security. Government intervention to increase the supply of scientists and engineers should result in an increase in quality and a decrease in the cost of those personnel to their employers through an increase in the competition for jobs in these fields (Finn, 1989).

There are several ways in which the employer can collaborate with both government and educational institutions to promote the employment of U.S. workers in job-shortage fields. Recommended strategies for employers include the following:

1. Employers should establish or expand affirmative-action plans for the recruitment, hiring, promotion, and career development of U.S. minority and other underrepresented workers in job-shortage fields. Such a plan should ensure that minority employees receive equitable salaries and opportunities for advancement to the highest levels of the corporation.
2. Employers should study ways to promote racial harmony in the workplace.
3. Employers should offer day-care and child-care services and improve other personnel services and practices to help employees cope with the increasing demands of modern life.

Recommendations to Educate and Train Minority Workers

The educational system is not producing sufficient numbers of U.S. workers who have the basic skills to perform relatively low-level jobs. Schools have failed to provide the critical-thinking skills that enable workers to learn on the job and adapt to new technologies and work-related demands. Additionally, there is a dearth of U.S. workers who are trained for professions that require more than a high school education, such as nursing, engineering, and other scientific and technical fields. Since problems begin early in the educational system, an approach that considers the entire system is needed. Government, employers, and educational institutions can take specific actions to address educational problems. These include:

For Government:

1. Expansion of preschool programs such as Head Start to serve all disadvantaged children.
2. Greatly increased funding for the compensatory-education program and expansion of the program to high school.
3. Support of initiatives that promote mathematics, science, and critical-thinking skills from the middle school level (at the latest) through high school.
4. Increased funding for dropout-prevention programs.
5. Establishment of additional job-training or apprenticeship programs for unemployed youth and disadvantaged citizens through the Employment and Training Administration. Research has indicated that, in general, these programs have served only a small portion of the eligible population (Simms, 1989).
6. Increased support for the vocational-education programs at both the secondary and the post-

secondary levels. Jobs in some growing technical fields will not require a college education.

7. Increased public funding to train and retrain workers in partnership with employers and establishment of formal links between training programs and employers to ascertain employer needs.

8. Encouragement of trade unions to become active partners in government training programs, especially for displaced workers, and provision of more government training grants to unions that represent occupations for which skills are general (and for which employers have no incentive to provide training) (Cappelli, 1989).

9. Support for private-sector training through a tax policy that favors investment in human capital (Parsons, 1989).

10. Encouragement of employer training collectives to develop highly specialized skills (Parsons, 1989).

11. Additional federal and state support for special programs (e.g., Minority Access to Research Careers [MARC], TRIO) for minorities and women at the undergraduate and graduate levels in fields in which there are job shortages.

12. Additional financial aid targeted for undergraduate and graduate education for minorities and women in fields in which there are labor-market shortages (this aid may be offered in the form of traineeships, research assistantships, fellowships, and forgivable loans). A recent proposal calls for the replacement of loans with grants for low-income students during their first two years of college (Business–Higher Education Forum, 1990).

13. Simplification of the student-aid delivery system.

14. Adoption of the "I Have a Dream" models financed by public funds.

For Employers:

1. Employers might participate in partnerships with the educational system at all levels to support the educational process for minorities. This approach includes providing financial support for special programs, providing internships and summer jobs to students, serving on advisory boards of educational initiatives, sponsoring scholarships, and providing job opportunities for graduates. A good example of this type of partnership is the participation of industry in the Mathematics, Engineering, and Science Achievement (MESA)/Minority Engineering Program (MEP) in California, which takes a pipeline approach to increasing the number of underrepresented minorities in engineering and science fields.

2. Companies might provide training for U.S. minorities in job-shortage fields. This activity might take the form of contributing to a training program; establishing an on-site, on-the-job training program; establishing apprenticeships; or supporting employees' further training through stipends or released time to permit them to attend class.

For Educational Institutions:

1. Colleges and universities can establish relationships with middle and high schools as well as community colleges that have high minority enrollments, utilizing them as talent pools in which to recruit students. Activities such as campus-based summer programs and advisement services can be part of this effort.

2. Colleges and universities can adopt flexible admissions requirements that use nontraditional (i.e., more relevant) criteria to identify minority students with the potential to succeed academically.

3. In collaboration with government and other agencies, colleges and universities might provide more financial aid to minority students in the form of traineeships, research assistantships, and fellowships in job-shortage fields. At the doctoral level this aid should provide support through the dissertation stage.

4. Colleges and universities should apply the research on retention of minority students to the development of supportive retention programs.

5. Colleges and universities can develop innovative nondegree-granting programs with industry and government to train, retrain, or update the skills of U.S. workers. Community colleges can develop "customized" programs to meet the needs of local business.

6. Institutions of higher education should make the hiring of minority faculty and staff a priority and set specific goals for that purpose.

7. Graduate departments can set specific recruitment, retention, and graduation goals for minority students.

8. Undergraduate programs should provide the opportunity for minority students to conduct research and disseminate information on graduate education, especially in fields in which there is a labor shortage.

The Role of Immigration in Future Work-Force Needs

There is a need to formulate a comprehensive national human resource development policy that takes into

account the education and training system, underdeveloped domestic talent, wages and working conditions, and the flow and characteristics of immigrants. Such a policy would bring together policymakers representing different interests and perspectives to consider both long- and short-term strategies to meet labor shortages and to build up the eroding national skill base.

The judicious use of immigration policy to augment domestic talent can be a vital element in a national human-resources policy. The admission of immigrants to this nation is very much a part of the American tradition, and there should be no drastic measures to cut off the flow of immigrants. However, a balanced immigration policy should weigh the merits of all the purposes of immigration law—family reunification, access for independent immigrants with labor-market skills, and refugee resettlement based on humanitarianism and foreign-policy commitments. A step in the right direction is the establishment of the Commission on Legal Immigration Reform required by the Immigration Act of 1990. This commission is to evaluate the new legislation in light of labor-market challenges, report on findings, and make recommendations on legal immigration by February 1, 1994.

Other requirements for the implementation of the new law provide for the monitoring of applications submitted under its "employment-based" provision. Employers may hire immigrants under this provision only when there is a critical need, and they must prove that attempts were made to recruit U.S. workers for specific jobs before resorting to the recruitment of immigrant workers. There is no requirement or incentive, however, for employers to undertake or contribute to the recruitment, training, or retraining of U.S. workers in the field in which there is a shortage (as is required by the Immigration Nursing Relief Act). The use of state funds for educational and training assistance of U.S. workers by states should also be monitored for effectiveness in reducing labor-market shortages.

Conclusion

There is almost unanimous agreement on at least three interrelated facts: (1) the educational system is not providing workers with the skills needed to fill jobs, (2) developing the nation's human capital resource is good for the nation, and (3) preparing that segment of the population that is outside the economic mainstream can help both to relieve the effects of poverty and to develop a source of talent to ease labor-market shortages. There is less agreement about the role of immigration to help the nation fill labor-market shortages. As a short-term solution immigration is beneficial as long as it does not contribute to a delay in the national response to the real problems underlying labor shortages: a deteriorating system of education, lack of reform in working conditions, and underdevelopment of minority talent.

The future determinant of national wealth will be the skills, training, and education of a nation's work force (Reich, 1991). The tight labor market presents a golden opportunity for the United States to put in place reforms that will develop the talent of its citizens and break the cycle of poverty for its most disadvantaged populations. The opportunity is ours. Will we make the most of it or let it pass by?

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